

AMENDMENTS TO THE SPECIFICATION

Please further amend the paragraphs commencing at page 4, line 32 and ending at page 7, line 25, as follows:

It is an object of the present invention to provide a network interface which can interface with a local data bus or local area network and at least two peripheral devices which share identical IEEE 1394 broadcast channels. The present invention provides an individual 1394 bus for each device using the network interface together with its own 1394 link layer.

Thus, according to one aspect of the invention, a system for transmitting and receiving data formatted in IEEE 1394 standard between devices using a same IEEE 1394 broadcast channel includes a controller interfaced to an internal bus, a first 1394 interface connected to the bus via first physical and link layers, a first device using a broadcast channel and connected to the first interface, a second 1394 interface connected to the bus, and a second device using the broadcast channel and connected to the second interface. The controller is configured for 1) receiving data transmitted from one of the first and second devices via the bus, attaching an identification (ID) header, which includes identification information corresponding to a recipient device determined based at least in part on a transmitting device which of the first and second devices transmitted the data, to the received data and retransmitting the received data with the ID header onto the bus, and 2) receiving data with the ID header attached thereto, interpreting the ID header to identify which of the first or second interfaces should receive the data, and transmitting the data over the bus to the identified 1394 interface. The ID header, which is other than a 1394 header, is used to build the 1394 header based on information contained in the ID header.

According to another aspect of the invention, in a system for transmitting and receiving data formatted in IEEE 1394 standard between devices using a same IEEE 1394 broadcast channel, the system includes a controller interfaced to a bus, a first 1394 interface connected to the bus, a first device using a broadcast channel and connected to the first interface, a second 1394 interface connected to the bus, and a second device using the broadcast channel and connected to the second interface. The controller is configured for receiving data transmitted over the bus and routing the data to either the first or second 1394 interface based on the received data using an identification (ID) header other than a 1394 header, the ID header contains information about the data and identification information corresponding to one of the first and second devices determined based at least in part on a transmitting device. The 1394 header is built based on information contained in the ID header.

In yet another aspect of the invention, the present invention provides a system for transmitting and receiving data packets formatted in IEEE 1394 standard, the system includes a controller interfaced to an internal bus, a first device using a broadcast channel and connected to the first interface, a second interface connected to the bus, and a second device using the broadcast channel and connected to the second interface. The controller is configured for 1) receiving data transmitted from one of the first and second devices via the bus, attaching an identification (ID) header and a subheader to the received data, the ID header including identification information corresponding to a recipient device determined based at least in part on a transmitting device which of the first and second devices transmitted the data, and retransmitting the received data with the ID header and subheader onto the bus, and 2) receiving data with ID header and subheader attached

thereto, interpreting the ID header and subheader to identify which of the first or second interfaces should receive the data and which broadcast channel in the identified interface should receive the data, and transmitting the data over the bus to the identified interface. The ID header, which is other than a 1394 header formatted in IEEE 1394 standard and contains information about the data, is used to build the 1394 header based on information contained in the ID header.

These and other features and advantages according to the present invention will be more readily understood by reference to the following detailed description of the preferred embodiment taken in conjunction with the attached drawings.